

Methodology for Forecast of Town Populations by Age Cohort
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Available Background Data

This forecast utilizes two existing forecasts:

I. The US Census Bureau's state-level population forecast by single year of age based on population estimates through 2000. This forecast was recalibrated to reflect 2001- 2004 Census estimates; i.e., we assumed Census Bureau's 2004 estimate was correct, and used the annual growth rates of the previous Census forecast to re-derive a forecast for 2005 through 2020 (this increased the state population by 0.48% in 2020).

II. The Maine county population forecast completed by SPO in October 2005.

The methodology used for that forecast was:

- (1) Created linear regression of each county's percentage of the state population over **long-term** history (1980-2004, all base data from Census Bureau).
- (2) Created second linear regression of each county's percentage of the state population over **short-term** history (2000-2004).
- (3) Calculated mathematical mid-points (of each county's percentage of the state population) from steps 1 and 2 and multiplied by the state population to obtain county population for each year, 2005-2020.

Methodology for Town Population by Age Cohort Forecast

Note: Only organized Minor Civil Divisions (MCDs) were forecast, so in many counties, the sum of the MCD populations will be less than the county total.

- A) Developed town total populations for each year 2001-2020 (data for 2001-2004 populations are Census Bureau estimates, but age breakdowns were not estimated by Census, so they were projected):
 - (1) Created linear regression of each town's percentage of the county population over **long-term** history (1960-2000) – decennial points, only, are available (the Census Bureau's annual estimates for 1990-1999 were obviously inaccurate, as the 2000 Census proved, and these estimates were never revised – so the data was not used).
 - (2) Created linear regression of each town's percentage of the county population over **short-term** history (1980-2000) – decennial points, only are available.
 - (3) Calculated mathematical mid-points (of each town's percentage of the county population) from steps 1 and 2 and multiplied by the county population to obtain town population for each year, 2005-2020.
 - (4) Census Bureau population estimates for the towns, 2001-2004, were accepted as accurate and the annual growth projections developed above were appended to those 2004 estimates to produce the final projections (in economics-speak, the projections were "jump-off corrected" to flow smoothly from the 2004 estimates).

(B) Develop town age cohort populations for each year 2001-2020:

- (1) Began with the percentage of a town's total population in an age cohort in the 2000 Census and changed it proportional to the change in the state percentage in that cohort – to each year 2000-2020. Repeated for each age cohort.

This means, for example, that if the 30-44 age group in the state changed from 23.5% of the state total to 23.6% (0.1 percentage points) between 2000 and 2001, then the percentage of total for each town in the 30-44 age group was also increased by 0.1 percentage points from its value in 2000. That is, the state change in percentage points from 2000 to the reference year is applied to the town.

This approach was tested at the county level for the 1990-2000 period. The change at the county level for all counties and all age cohorts (as a percentage of county total population) was within 0.7 to 2.3 percentage points of the state change. In the worst case, Aroostook's 65-79 age cohort, the change was actually from 9.8% to 12.6% of Aroostook total population. The state's change was 0.5%, so this methodology would have produced a figure of 10.3% for Aroostook versus the actual 12.6%, thus underestimating Aroostook's population in this cohort by about 1,667 people (county total population was 72,478 in 2000).

Military Base Closures

This forecast does not include potential gains or losses in population caused by the closure or expansion of military facilities in Limestone, Bangor, or Brunswick. At the time this forecast was generated, reliable data on the number and ages of military and civilian personnel to be effected, and the dates of closure and expansion, were unavailable. This forecast serves as a baseline projection that can be adjusted if reliable information on military and civilian personnel becomes available.